

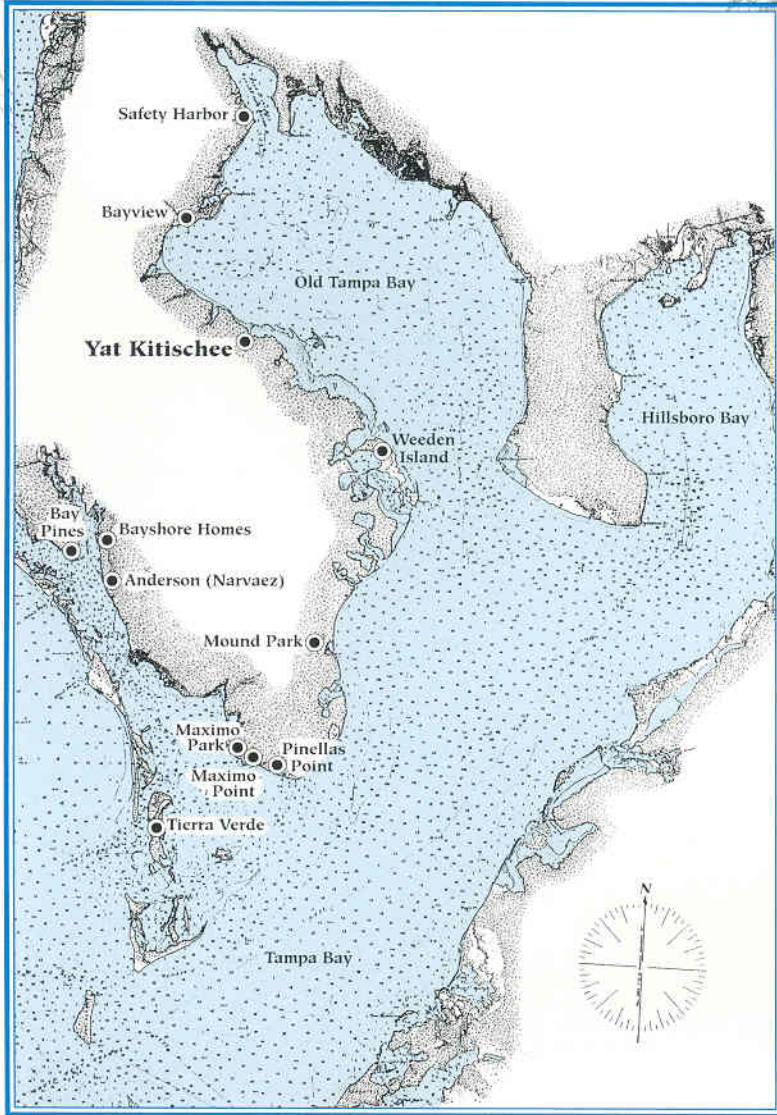
# Yat Kitischee

THE ARCHAEOLOGY OF A  
PREHISTORIC COASTAL HAMLET



A Project Conducted by Janus Research for the Board  
of County Commissioners of Pinellas County, Florida

## Prehistoric Sites in Pinellas County



# Yat Kitischee

## THE ARCHAEOLOGY OF A PREHISTORIC COASTAL HAMLET

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## Life in a Coastal Hamlet

As the day begins the men load their nets into dugouts and get ready to fish the tide change. The evening before they had heard the mullet jumping between the oyster beds and mangroves. They push off and paddle in that direction. Meanwhile, women stoke the fires which burned low overnight and place clumps of leaves onto the flames to help chase away the mosquitoes. A group of three hunters who spent the previous evening knapping arrowheads with antler hammers decide to scout out a fresh game trail not very far inland. They quietly disappear into the pine and palmetto with their arrows notched, but not yet drawn.

With most of the men gone, a group of women and their children leave the village to collect oysters from a nearby bed. Whelk shell beads sway against their chests as they walk carefully over the sharp oyster shells. Once their baskets are full, they return to the village where they remove the meat from the shells and dump it into a stew pot suspended over an open fire. Some unopened shells spill into the coals and are left to roast. Chunks of shark meat and catfish are already simmering in the soup which several families will share.

A few of the villagers have their hair pulled back and held in place with finely carved bone pins. Taking advantage of the cool morning, children comb the nearby





woods for firewood, while others collect palmetto berries, blackberries, blueberries, mulberries, and prickly pear cactus fruit. Upon their return, mothers notice their childrens' blue-stained lips and half-full baskets. But not everyone is busy fishing and hunting and gathering.

Nets from yesterday's fishing are being mended with bone shuttles and palmetto fiber cordage. Stacks of fresh green palmetto fronds sit next to the huts being repaired after a recent storm. An old fisherman is shaping a dugout canoe with a shell adze. Women clean up from last night's feast and dump the oyster shell, fish bone, animal bone, and a broken pot onto the garbage pile downwind of the village. Raccoon tracks lead from the pile into the mangroves. From atop the garbage pile the women can see the fishermen hauling in full nets. The water behind their dugouts is white and choppy with mullet, trout, redfish, and catfish. Seagulls and pelicans circle overhead and dive for their catch.

On the way back to the village the women walk past a large deer hide stretched between the posts of a tanning rack, past a potter pulling a new vessel from the coals, and past filets of redfish and stingray drooping over a smoking stand. They stop and sample a piece of moist redfish. Another day at Yat Kitischee is under way.





The scene described on the previous page is a fictional reconstruction of prehistoric life on Tampa Bay circa A.D. 800. It is based on archaeological evidence recovered during two seasons of excavation at **Yat Kitischee\***, a prehistoric *hamlet* in Pinellas County, Florida. This booklet describes how the site was discovered, how state and local governments, archaeologists, and Native Americans worked together to ensure its protection, and how the public became involved in a unique educational experience. It also explains what modern archaeology is all about, how it is done, and why. By using the Yat Kitischee Project as an example, we hope to convey some of the excitement that comes from carefully uncovering and learning about the past from the everyday items that people lose, throw away, or leave behind when they depart.

\*Highlighted words are explained more fully in text boxes. Italicized words are defined briefly in a glossary at the back of this booklet.



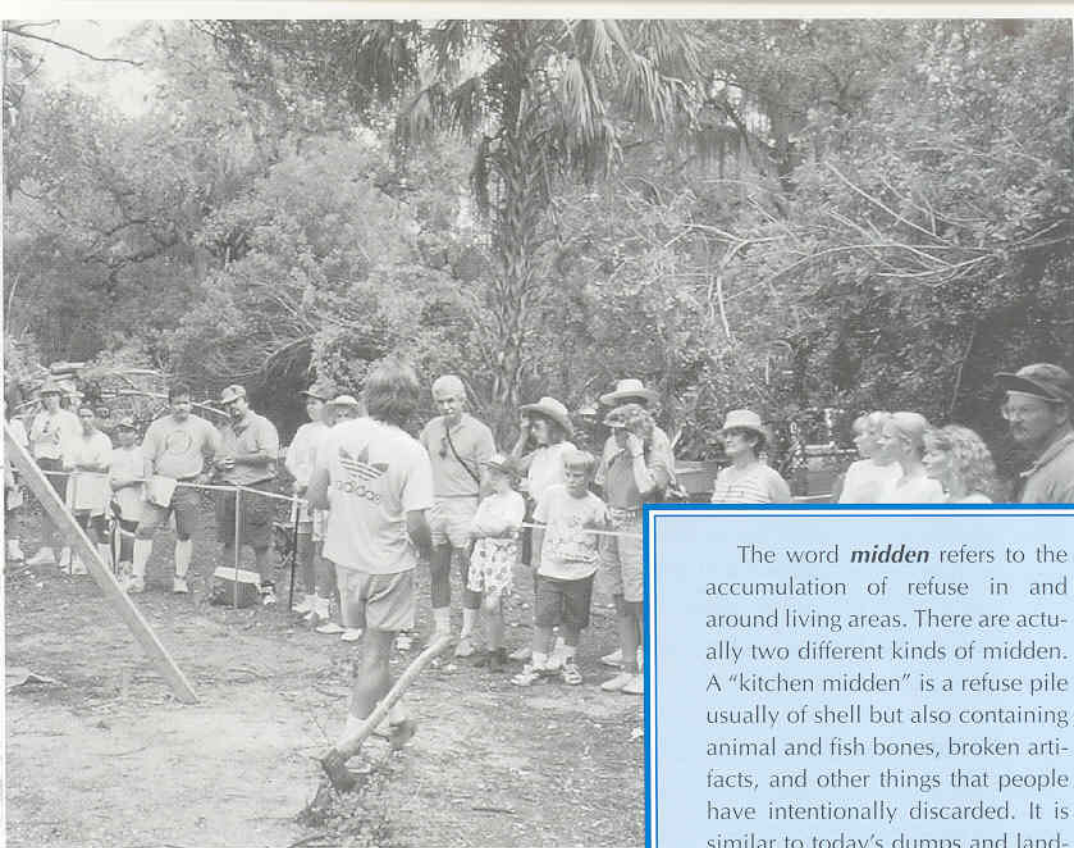
## The Yat Kitischee Project

4 In response to the policies of the Pinellas County Comprehensive Plan, the Board of County Commissioners authorized a *survey* of archaeological resources in 1990. Janus Research, a St. Petersburg archaeological firm, was hired by the County to conduct the survey. Yat Kitischee was brought to the attention of the archaeologists by a concerned citizen who knew that an archaeological site near the St. Petersburg-Clearwater International Airport was being vandalized. At the County's request, Janus Research briefly investigated the site and confirmed the existence of a significant *prehistoric midden*. Based on their findings, the archaeologists recommended a more detailed study. The County agreed and in 1992 an intensive testing project began. By using a *transit* to map the site's surface, and after digging many test holes and analyzing the contents, the archaeologists were able to determine the size of the site, that it contained the remains of several prehistoric households, and that it was occupied over 2000 years ago. The archaeologists also discovered two human burials. Because state law requires that human cemeteries be left undisturbed if possible, the County began a process of negotiation with the landowner to determine what could be done to preserve the site and ensure that the burials would not be disturbed. These negotiations lasted nearly

### What is Yat Kitischee?

**Yat Kitischee** (pronounced *yot ka-ti-shee*) means "red people" in the *Muskogee* language. The name was suggested by Native Americans who were involved in protecting the site from vandals. Originally, Yat Kitischee was named "Moog Midden" after an electronics plant that was located nearby. The Board of County Commissioners changed the name to honor the native peoples who lived and were buried at the site.

two years. During that time members of the American Indian Movement of Florida camped out at the site to keep people from digging there. In the meantime, County planners submitted a grant application for a public archaeology project to the Florida Division of Historical Resources. The application was ap-



proved in 1993, but distribution of the funds was contingent on the County owning the site. Acquisition of the property was accomplished through the combined funding efforts of the Florida Department of Transportation and the St. Petersburg-Clearwater International Airport. The land was needed as a buffer between the airport and a nearby residential area. Purchase of the property was accomplished by the County's Real Estate Division. Without the assistance of these agencies, the project would not have happened.

With the ownership issue resolved, the Yat Kitischee Public Archaeology project was ready to begin. The project was designed to educate the public about archaeology and prehistory by involving them in an actual field experience. Volunteers worked side by side with professional archaeologists during the excavation, learning first hand how archaeology is done and what can be learned from a study of the past. Tours of the site were conducted regularly so that more people could see the excavation in progress. Distinguished scholars from around the country presented free public lectures on various aspects of prehistoric life in Florida. The combination of education and hands-on experience proved to be an effective way of developing a public awareness of the need to preserve archaeological sites. The Yat Kitischee project became an example of how archaeologists, Native Americans, volunteers, and government officials can all work together successfully to preserve the past. 🐞

The word **midden** refers to the accumulation of refuse in and around living areas. There are actually two different kinds of midden. A "kitchen midden" is a refuse pile usually of shell but also containing animal and fish bones, broken artifacts, and other things that people have intentionally discarded. It is similar to today's dumps and landfills. A "village midden" consists of food remains, broken tools and implements, and other debris that accumulate gradually in a living area. Portions of village middens may also contain intentionally discarded refuse, often in discrete locations such as trash pits. At one time, not very long ago, shell middens and shell mounds were often scraped up and used as road-fill. Many old roads in Florida contain prehistoric shell, bone, and artifacts from these middens.



## What Is Archaeology?

Archaeology is the study of past cultural behavior, from the beginnings of the human species to events that happened yesterday, through the material remains, or *artifacts*, that people leave behind. By carefully applying scientific techniques in excavation and analysis of their findings, archaeologists attempt to reconstruct past lifeways and understand why different customs developed and evolved.

Archaeologists also hope to gain a better understanding of the native Floridians as a people. To do this, they try to assemble clues that help answer questions about their religious beliefs, their political systems, and their family structures. Unfortunately, games, jokes, songs, and dances do not preserve in the ground. To help flesh out the details of prehistoric life, archaeologists use historical documents that describe native cultures at the time of Spanish contact and *ethnographies* of contemporary traditional societies in places like Africa, Australia, and South America. These provide insights into the kinds of social behaviors that might have been practiced in the past by people possessing similar levels of economic and political development.

## Why Study the Past?

At Yat Kitischee, native peoples had to solve everyday problems that confront people everywhere—the necessities of obtaining food and shelter, protection from the elements, and learning to coexist with family members and neighbors. Because the site was occupied for over 1000 years, people also had to respond to long-term problems such as increases in population, the depletion of resources, and climatic change. These too are universal problems. Through archaeology we come to understand that there are many different ways of dealing with these problems, and we gain an appreciation for the variety of customs, beliefs, and lifestyles that are present within the human species.

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## Why Does Culture Change?

Specific cultures develop in response to the opportunities and constraints presented by their local environments. As the environment changes, so do the ways in which people adapt to and exploit it. For example, the houses, clothes and diet of people living in a desert are very different from those of people who live in the arctic. Because the environment has changed through time, the distant ancestors of people who today live in a desert may have been confronted by dense forest and abundant water requiring a much different lifestyle. The ability to develop culture has enabled the human species to adapt more quickly and efficiently than it could if it was dependent only on changes to its genetic makeup which occur at a much slower rate.

But people don't adapt only to the natural environment. They interact with other people, and these interactions constitute their social environment. In the past, as populations increased in size, social and economic interaction with different people became more frequent and complex, further influencing the character of local cultures. Culture change is thus influenced by both environmental and social factors. 🌿

### What Is Culture?

Culture is the set of ideas, beliefs, customs, and behaviors that are shared by a people living in a specific place and time. Human beings are born with the genetic capacity for creative thought and for communication using symbols. But we are not born with culture — we acquire it from our parents and our social peers. Thus another important component of culture is that it is transmitted from one generation to the next through a complex learning process. Other animals possess some of the behaviors that we associate with culture, such as the ability to use simple tools, to communicate with one another, and some forms of social behavior. But none have developed these to the extent that human beings have. The sophisticated development of cultural behavior is our unique adaptation.



## Manasota—The Culture of Yat Kitischee

The native people who lived at Yat Kitischee were associated with a prehistoric culture known as Manasota. This culture extended geographically from present day Sarasota County north to Tampa Bay. The Manasota culture evolved from the earlier **Archaic** cultures of mobile hunters and gatherers that began settling permanently along the west coast of Florida around 3000–4000 B.C. These Archaic peoples were themselves descendants of Florida's first inhabitants, known to archaeologists as **Paleo-Indians**, who arrived here 12–14,000 years ago.



Unlike their Paleo-Indian and Archaic ancestors, the people of the Manasota culture were fully adapted to a coastal environment, and their archaeological sites contain artifacts and other features that reflect this adaptation. Manasota settlements are located in *hammocks* near bays and estuaries providing access to fish and shellfish, as well as terrestrial plants and animals in the nearby pine flatwoods and in freshwater streams and ponds.

Each settlement appears to have contained a few related families. When people died, they were buried near their home or in cemeteries located near the settlement. The absence of grave goods or any indication of differential treatment in death suggests that Manasota society was relatively egalitarian. Leadership in the community was probably based on individual ability, and was acquired rather than inherited. Villages in a region may have been integrated through marriage or trade networks.

By A.D. 200 or so, Manasota peoples had begun to adopt some of the religious, ceremonial, and mortuary practices that were being practiced by neighboring cultures to the north.

Archaeologists call this set of shared customs **Weeden Island** after the type site in St. Petersburg where their archaeological manifestations were first identified.

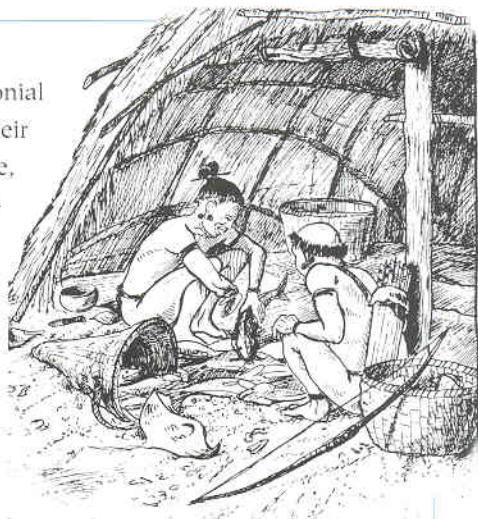
There is some confusion about what Weeden Island is (or was), and not even archaeologists can agree on every detail. Basically Weeden Island consisted of a set of religious beliefs and associated rituals that helped people make sense of their world. Just as today people of different cultures sometimes share a common religion such as Hinduism or Catholicism, prehistoric peoples in north and west-





central Florida adopted the religious and ceremonial practices of Weeden Island while retaining their local traditions of subsistence, family structure, technology, and social organization. The primary archaeological manifestation of this new ceremonialism was the use of sand burial mounds and the placement of ornately decorated pottery with the dead.

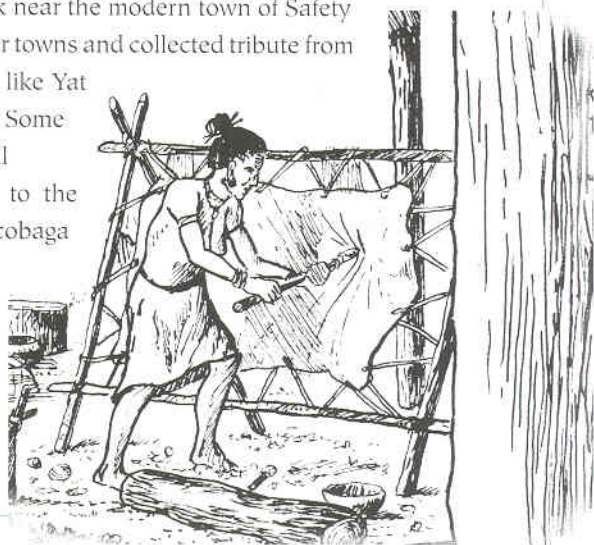
Around A.D. 900, another change took place—the emergence of the final prehistoric culture in the Tampa Bay area—**Safety Harbor**. This time the source of influence was from much farther away—the Mississippi Bottoms of the American midwest. Here new political and ceremonial practices developed in response to increased population and the need to develop management measures to safeguard against famine and warfare. Safety Harbor society was highly stratified with a noble class,



warriors, slaves, and peasants. Politics and religion were closely related, and political rulers were often believed to be gods who demanded respect and tribute in return for ensuring peace and prosperity.

A hierarchy of site types reflects the unequal status of people within Safety Harbor society. Large ceremonial centers with flat-

topped *temple mounds* were home to *caciques*, or supreme rulers, whose domains encompassed several smaller towns and hamlets. One of these temple towns, Tocobaga, was located at Phillipi Park near the modern town of Safety Harbor. Lesser rulers resided in smaller towns and collected tribute from the still smaller villages and hamlets like Yat Kitischee that dotted the landscape. Some of this tribute was kept by the local rulers and the rest was passed on to the supreme cacique. The territory of Tocobaga (part of which is depicted on the map on the inside front cover) included the temple towns at Pinellas Point, Maximo Point, and the Anderson site on Boca Ciega Bay.



12,000 B.C.      End of the Ice Age 10,000 B.C.      7,000 B.C.      First evidence of coastal habitation 3,000 B.C.      2,000 B.C.

People first enter Florida

Archaic hunter-gatherers roam the area

First pottery is introduced

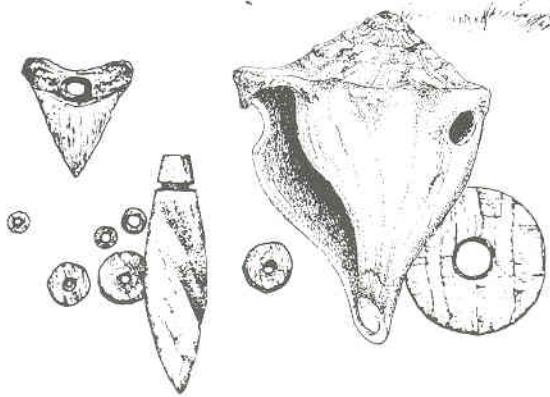
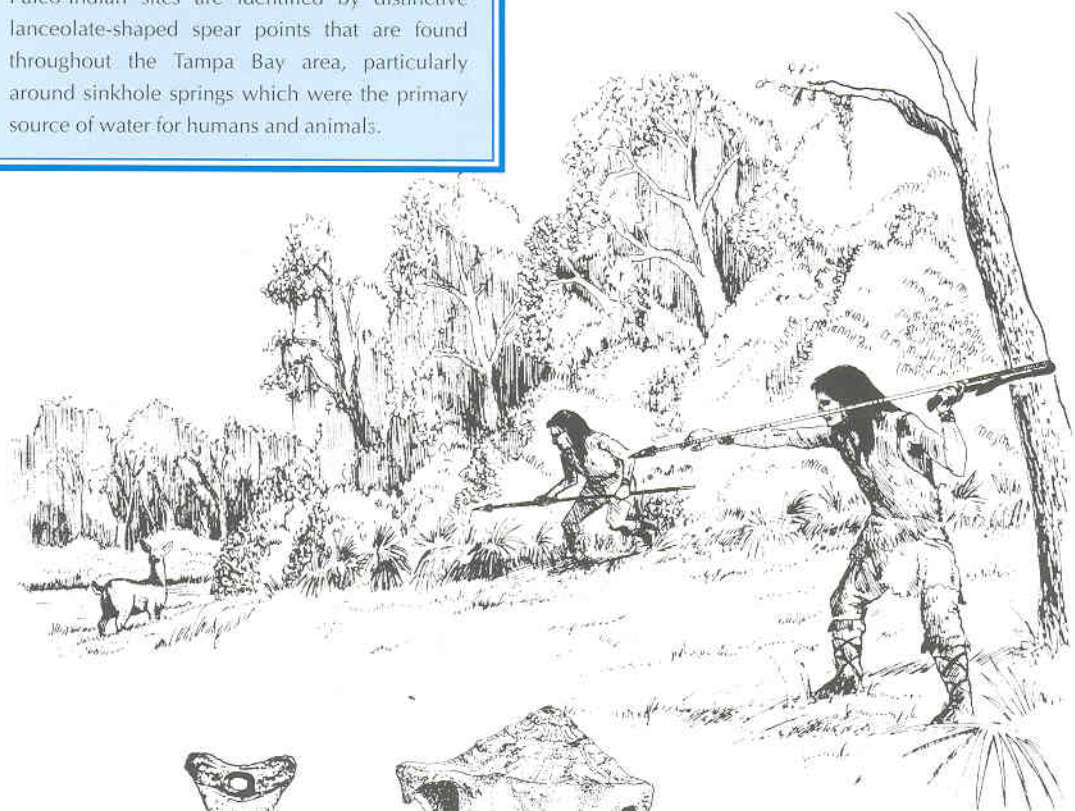


### Paleo-Indian Period

Fourteen thousand years ago, near the end of the last ice-age, Florida was nearly twice as large as it is today because much of the world's sea water was trapped in massive glaciers. The resulting lower sea levels exposed a much greater land mass. Florida's climate was also cooler and drier than today. Vast, open savannah supported large, grazing animals like mastodon and bison. Florida's first human inhabitants, known by archaeologists as Paleo-Indians, hunted these large mammals. Paleo-Indian sites are identified by distinctive lanceolate-shaped spear points that are found throughout the Tampa Bay area, particularly around sinkhole springs which were the primary source of water for humans and animals.

### Archaic Period

As the climate warmed, the large glaciers melted and sea levels began to rise. The large Ice Age mammals became extinct and people began to hunt modern animals like deer, raccoon, opossum, and squirrel. They also collected plants and fished. Larger populations coupled with a reduced land mass resulted in the exploration and settlement of many new environments. Some Archaic populations retained a mobile lifestyle while others became relatively sedentary. The first pottery was introduced during the late Archaic period (ca. 2000 B.C.).





Manasota culture  
first appears  
500 B.C.

0 A.D. 200

A.D. 900

Spanish  
explore Florida  
A.D. 1500-1600 A.D. 1750

Weeden Island  
ceremonialism spreads  
through west Florida

Safety Harbor  
culture first  
appears

Seminoles enter  
Florida from Georgia  
and Alabama



## Safety Harbor

The Safety Harbor site is located at Phillipi Park near the town of Safety Harbor about 15 miles due north of Yat Kitischee. Excavations were first conducted there in 1930 by Mathew Stirling of the Smithsonian Institution. The site contains a large, flat-topped, temple mound, several burial mounds, and a large village area with associated middens. Stirling concentrated on the burial mound, but later work by John Griffin and Ripley Bullen of the Florida Park Service focused on the temple mound and the village area. Recovery of Spanish artifacts dateable to the 16th century have led archaeologists to conclude that Safety Harbor is the town of Tocobaga visited by the Spanish explorer Pedro Menendez de Aviles in 1567. Menendez established a garrison at the village, and left 30 soldiers and a captain there. When the Jesuit priest Juan Rogel visited the site later that year, he reported nothing amiss. However, when he returned to Tocobaga in January of 1568, Rogel found the village deserted and all of the Spaniards dead.

## Weeden Island

The Weeden Island site is a large shell midden and burial mound complex located on the west shore of Tampa Bay about five miles southeast of Yat Kitischee. The site first gained national attention in the early 1920s when J. Walter Fewkes of the Smithsonian Institution excavated a portion of the burial mound. These excavations discovered the finely made and ornately decorated mortuary vessels that archaeologists have come to associate with the Weeden Island culture. The site was again investigated in the 1960s by William Sears of the Florida State Museum. Sears excavated a small area of the shell midden near the burial mound. But instead of decorated pottery, Sears found many *sherds* of plain, utilitarian pottery in the midden. The presence of different pottery types in mortuary and domestic contexts was a pattern that Sears had noticed at other sites on Florida's central Gulf Coast. Recent research by Jerald Milanich in north-central Florida, and George Luer and Marion Almy on the central Gulf coast, has demonstrated that the Weeden Island culture was actually centered in north Florida and southern Georgia and Alabama, and that the people who lived at Weeden Island were actually members of the Manasota culture.

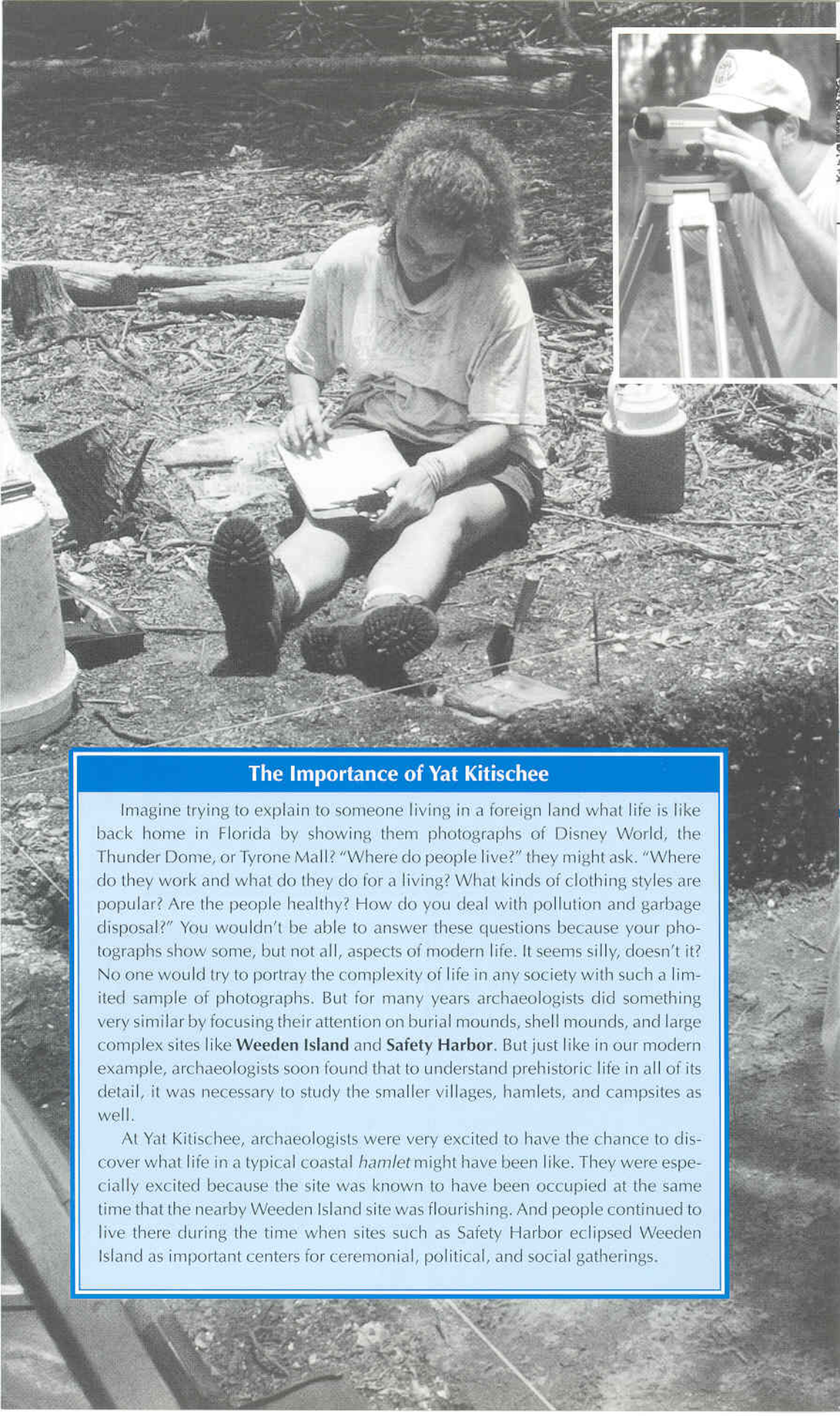


## Seminoles and Miccosukees

The native peoples of Florida were decimated by disease, warfare, and social disintegration brought about by contact with the Spanish. This left much of Florida uninhabited by the early 18th century. Creek Indians from Georgia and Alabama moved into Florida and eventually became known as the Seminoles.





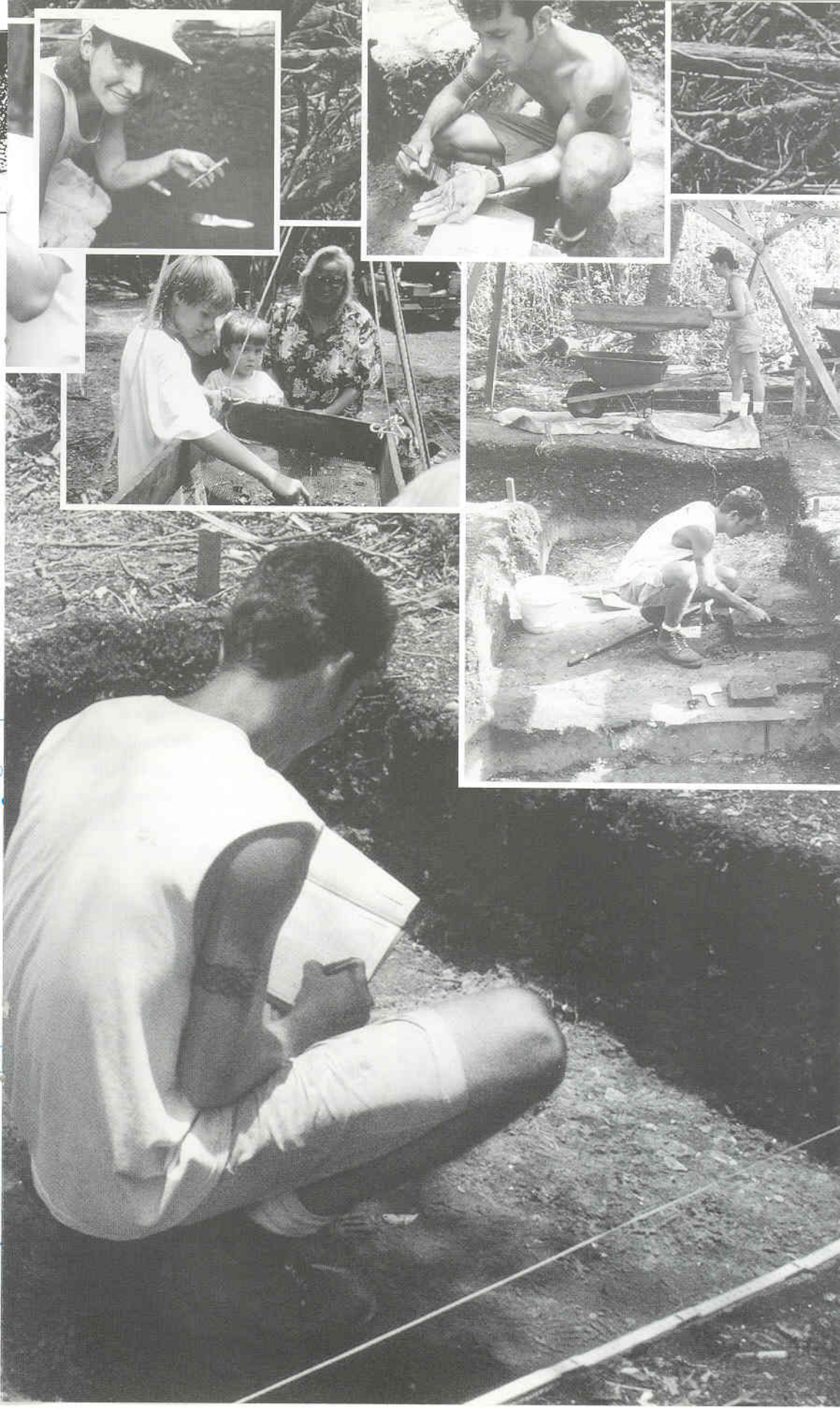


### The Importance of Yat Kitischee

Imagine trying to explain to someone living in a foreign land what life is like back home in Florida by showing them photographs of Disney World, the Thunder Dome, or Tyrone Mall? "Where do people live?" they might ask. "Where do they work and what do they do for a living? What kinds of clothing styles are popular? Are the people healthy? How do you deal with pollution and garbage disposal?" You wouldn't be able to answer these questions because your photographs show some, but not all, aspects of modern life. It seems silly, doesn't it? No one would try to portray the complexity of life in any society with such a limited sample of photographs. But for many years archaeologists did something very similar by focusing their attention on burial mounds, shell mounds, and large complex sites like **Weeden Island** and **Safety Harbor**. But just like in our modern example, archaeologists soon found that to understand prehistoric life in all of its detail, it was necessary to study the smaller villages, hamlets, and campsites as well.

At Yat Kitischee, archaeologists were very excited to have the chance to discover what life in a typical coastal *hamlet* might have been like. They were especially excited because the site was known to have been occupied at the same time that the nearby Weeden Island site was flourishing. And people continued to live there during the time when sites such as Safety Harbor eclipsed Weeden Island as important centers for ceremonial, political, and social gatherings.





## Uncovering the Past

As the work day begins at Yat Kitischee, a two-person archaeology team begins work in a new excavation square, its perimeter outlined by white string pulled taut between wooden stakes in each of the square's four corners. Nearly a hundred other stakes stand erect in neat rows, each stake exactly two meters apart. The stakes are part of the *grid* system.



Other archaeologists set up the *transit* and unload tools from the trucks. A few of the volunteers who spent the evening sharpening their trowels climb into open squares to pick up work where they left off yesterday. The crew chief stops and gives instructions for drawing a *profile* that will show the various soil layers. They disappear into the square to clip roots and shave the walls of the excavated square straight with their sharpened trowels. Coffee steams out of styrofoam cups set in wheel barrows, and bug spray mist chases the mosquitoes back into the dense brazilian pepper.

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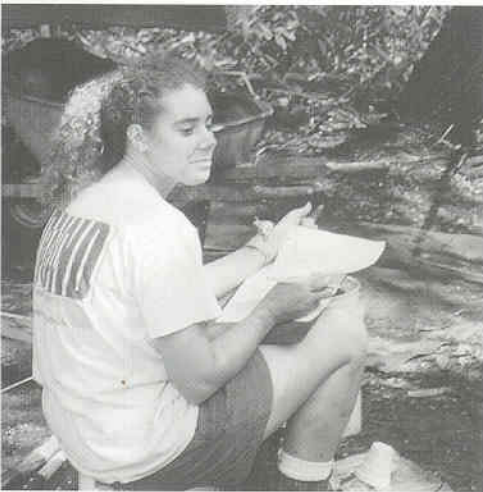
Back in the new excavation square, the archaeologists use rope to suspend a screen from a large saw-horse-like stand located near the edge of the square, and then move a wheelbarrow underneath to catch the sifted soil. The crew chief squints through the barrel of the transit, peering at a tall, white *stadia rod* with black and red numbers that one of the crew steadies next to a corner stake. As the crew chief calls out elevations, a second crew member records them on a sheet of paper attached to a clipboard. These elevations will enable the archaeologists to record the exact depth of each *artifact* and *feature* they find in this square.

The surface of the unit is nearly level and the crew begins digging. One person carefully scrapes away the soil with a flat shovel, tossing the soil into the screen with a casual accuracy that comes from years of experience. She is dressed in shorts and a loose tee-shirt, and wears flat-soled boots to protect the unit's floor. Her partner shakes the screen back and forth, barely altering the steady, rhythmic motion to catch the flying clumps of soil. Artifacts, food bone, and shell quickly collect in the screen as the wheelbarrow underneath fills up with a rich dark soil.

Midway through the level the digger notices a circular stain in one corner of



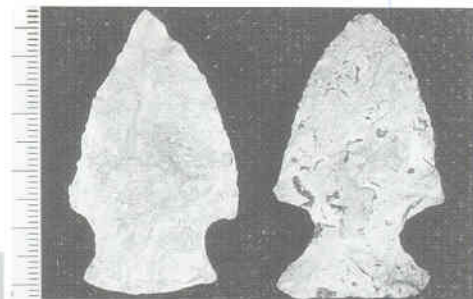


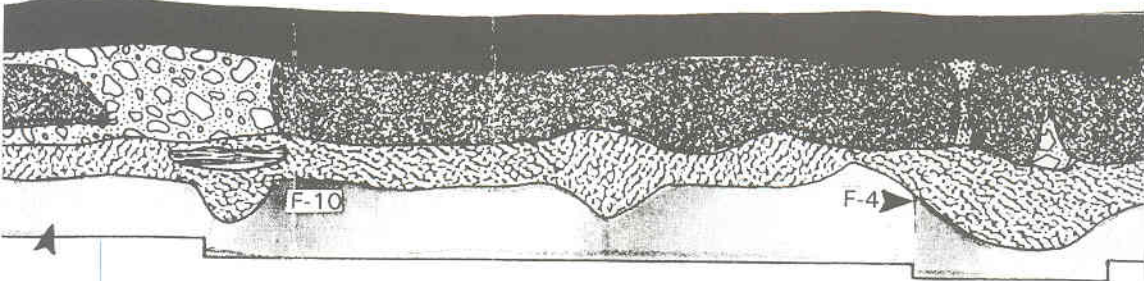


the unit. She stops digging, bends down, and carefully scrapes soil away with her trowel. Her partner uses this lull to stop shaking and begin picking broken pot sherds, fragments of bone and shell, and an occasional *chert* flake out of the screen. "What is it?" he asks, glancing over to her kneeling figure. "Looks like another post," she answers. He places the artifacts he has collected in a plastic bag and walks over to his tool box, grabbing a ruler and clipboard. "Bring the plumb bob," she asks.

Together they draw a map showing the stain's shape, measure its location, and record its content. The elevation of the feature is recorded with the transit before they consult the master list of identified features in the crew chief's notebook. This stain will be designated Feature 25—a possible **post mold**. A large map showing all of the excavated features is spread out on the table by the truck. They look for their square, 908N/914E, and note that Feature 25 and five other post molds in an adjacent square, form a semi-circle indicating the outline of a possible structure.

They walk back to their square and continue digging in all areas of the unit except the stain, which will be removed separately so any differences in artifacts, shell, or soil can be noted. The floor of the square is excavated down one level, or exactly ten centimeters, and the digging stops. The artifacts are sorted and counted. Separate bags are made for the ceramics, bone, *lithics*, and shell tools. The leftover shell is placed in five-gallon buckets and weighed. Notes are taken. "The recovered sherds all appear rather small in size and are perhaps the result of being walked on and broken, indicating that this area might have once been a living floor," begins the comments. Soil color, shell density, and artifact counts are added to the notes. The team carries the buckets of weighed shell to the edge of the clearing and dumps them on a pile that grows larger every day. From the pile, they can see airplanes landing at nearby St. Petersburg-Clearwater International Airport. An osprey carries a mullet it has caught back to a nearby nest. On the way back to their square, they walk past other crew members getting a completed square ready for photographs and past a volunteer brushing off a pot sherd. In the background they overhear a school group getting a tour of the site. The sun has risen over the tree tops and sweat drips freely off their foreheads. The two archaeologists take a brief break, getting a drink of water and putting on sunscreen before they switch places and begin another level. 🐾





**W**hen people visit an excavation in progress, they typically ask a lot of questions. In the following pages, we attempt to answer some of the most common ones.

### How deep do you go?

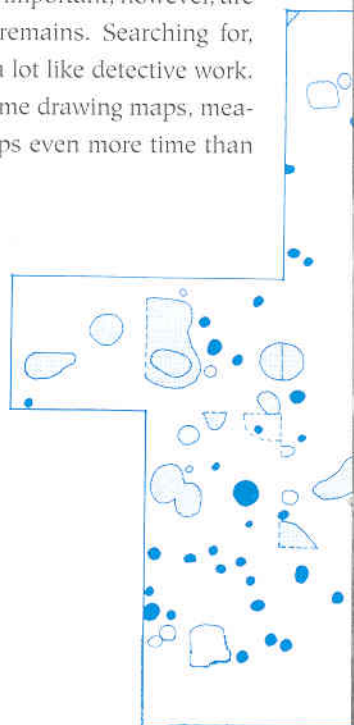
Once archaeologists begin to dig, they like to keep digging until they reach sterile soil, or in other words, until there are no more artifacts or *features*. And even then they don't stop! It is considered good practice to dig several sterile levels without finding anything whatsoever! This way they can be sure that they are not missing an earlier occupation that may be separated from later occupations by sterile soil.

### What are you looking for?

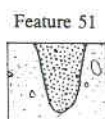
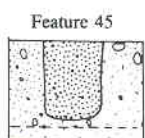
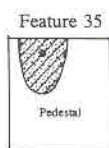
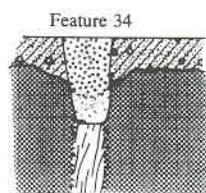
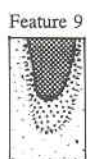
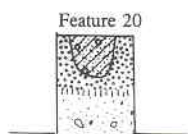
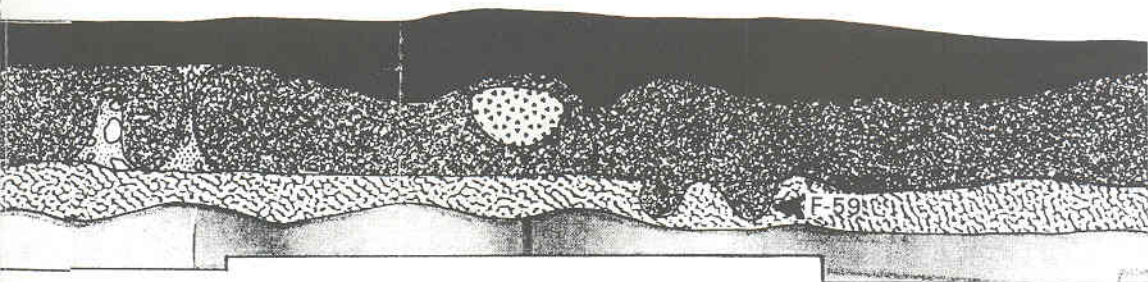
More than artifacts, archaeologists are looking for clues that can help them interpret the past. These clues may consist of physical evidence such as pot sherds or shell tools, although more often they consist of animal bones, plant remains, stains in the soil, or even the chemical composition of the soil. Even more important, however, are the vertical and horizontal relationships of the physical remains. Searching for, recording, and interpreting these clues makes archaeology a lot like detective work. And it is why you will see archaeologists spending a lot of time drawing maps, measuring the locations of their finds, and writing notes, perhaps even more time than they spend digging.

#### Post Molds

Prehistoric houses and other structures were usually made of wood. A basic construction technique involved placing support posts in the ground to create a frame, and then using other materials (branches, palm fronds, more posts, etc.) to enclose the structure. When the wooden posts deteriorate or burn they leave a stain in the soil that indicates where the original posts were located. These stains are called "post molds" and the holes that were dug to place the posts in are called "post holes". Post molds and post holes are often arranged in a pattern that indicates the structure's size and shape. At Yat Kitischee, thirty-three post molds were identified during excavation. By themselves, each post mold appears insignificant. But when several post molds are exposed and mapped, the patterns of early structures are revealed. Sometimes wood or charcoal from the original post will be found in a post mold, and by using **radiocarbon dating**, the archaeologists can determine how long ago the wood for the household was cut.







## Stratigraphy

The study of the various strata, or layers of soil, at a site is known as "stratigraphy". Archaeologists are interested in stratigraphy because each layer represents a different period of soil deposition, and distinct strata can be used as markers to separate the different occupations of a site. The different layers are recorded on *profile* drawings which are used by the archaeologists to interpret the developmental history of the site. For example, at Yat Kitischee four distinct strata were observable and each was related to a different period of site use. Common sense tells us that the deeper an object lies below the surface, the older it is. This basic principle, known as the law of superposition, is the basis for interpreting stratigraphic profiles. Thus, the lowest strata at Yat Kitischee represents the earliest occupation of the site, and the highest strata represents the most recent. In between there was a layer that consisted of many individual deposits of food refuse that accumulated during a period when part of the site was used for trash disposal. Below this, and above the earliest layer, was another occupation zone that contained many post molds and features.

## Why dig square holes?

Archaeologists are very concerned with context, or the horizontal and vertical relationships between artifacts and features. These relationships reveal patterns that are important for interpreting a site and understanding how people lived. The horizontal dimension reflects spatial patterns and the vertical dimension reflects temporal patterns. Square holes are one way that archaeologists are able to maintain and record the context of their finds. They are usually of a standard size (at Yat Kitischee the archaeologists used squares that measured two meters, or about six feet, on a side) and the corners of each unit are tied into a *grid system* that enables the archaeologists to know precisely where they are within the site. The straight walls are useful for accurately measuring the horizontal position of any artifacts or features found. They also offer four views of the **stratification** within a site.

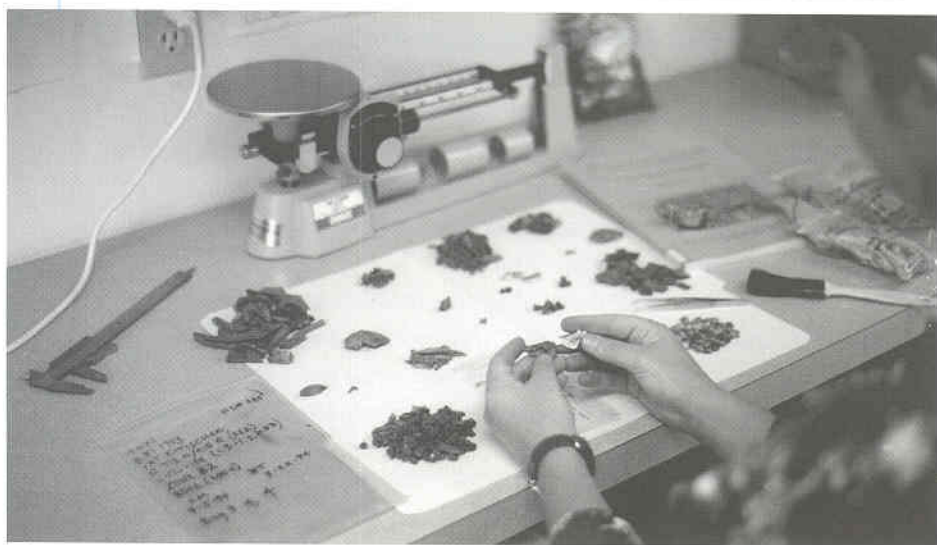
Great care is taken so that each excavation unit remains square and that all measurements are accurately made. Archaeologists know that they will have the opportunity to excavate a unit only once. After they finish, what was contained in the ground, the context of the artifacts and features, is gone forever, so archaeologists are careful to notice and record everything they can.

## Reconstructing the Past

Archaeology doesn't end when the digging stops. In fact, the excavation is just the beginning. For every hour spent digging, many more hours are spent in the laboratory washing, cataloging, and analyzing. The first step is to clean the artifacts and, if necessary, stabilize them to prevent their deterioration. Then they are sorted and cataloged. A computer is used to store all of the information associated with each artifact and feature. Computers also make it easier to analyze the many thousands of pieces of information that are generated from an archaeological project.

Different types of materials are analyzed by different specialists. For example, the Yat Kitischee Project employed specialists in lithic analysis, ceramic analysis, faunal analysis, bone and shell tool analysis, and botanical analysis. Charcoal and shell samples were sent to a special laboratory for radiocarbon dating.

Some of the most important information came from the analysis of the discarded bone and shell. These provided the archaeologists with information on the kinds of animal species that were used as food. The botanical analysis provided information on the kinds of plants that were present at the site. By examining and measuring the rims of the broken pot sherds, the different kinds of storage and serving vessels that were used at the site were identified. Use wear analysis determined what the different types of stone tools were used for.





## How old is the site?

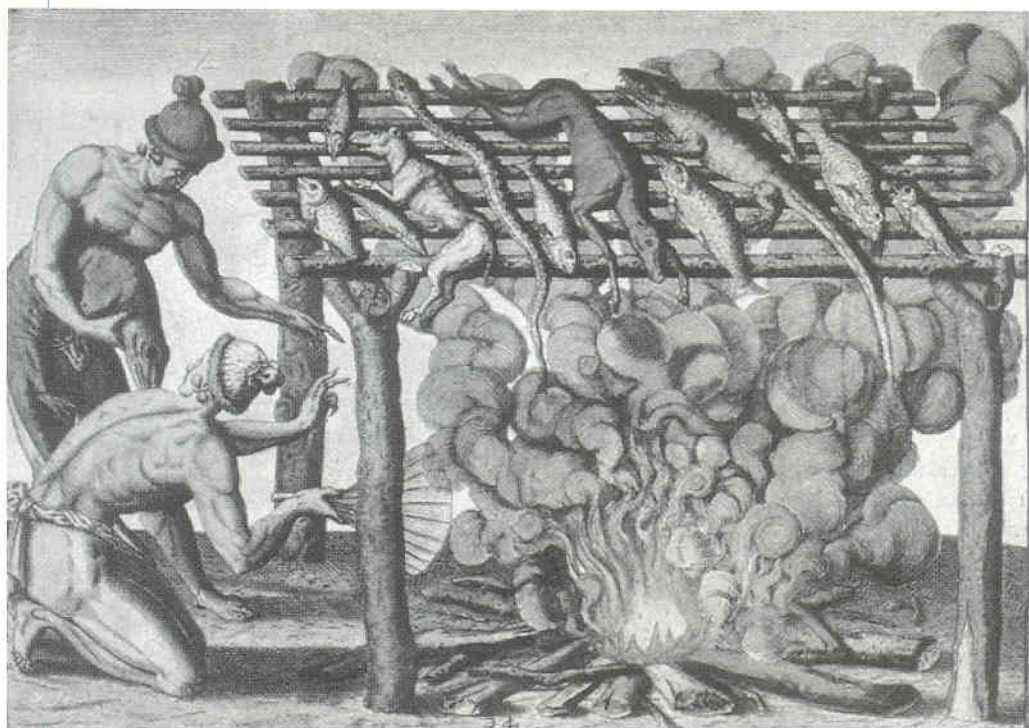
Radiocarbon dating was used to determine the age of Yat Kitischee. Using this method, scientists determined that the site was first occupied about 2000 years ago, or about 100 B.C., and continued to be used until about A.D. 1200. The archaeological evidence indicates that the site was used

first by small groups camping for short periods of time. Around A.D. 100 people began to live at the site on a more permanent basis. It was at this time that the first structures were built. Sometime around A.D. 400 the northern portion of the site closest to the bay was abandoned and was used only for trash disposal. This may have been caused by higher sea levels or a higher water table. By A.D. 800 people had returned to this part of the site as evidenced by an increase in artifact density and the reappearance of pit features. The area was abandoned for good at about A.D. 1000 although other parts of the site continued to be used after this time. For example, a large shell mound was deposited sometime between A.D. 1000 and A.D. 1250, well after the northern part of the site was no longer being occupied.

### Radiocarbon Dating

All living things absorb carbon which occurs naturally in three isotopes— $^{12}\text{C}$  and  $^{13}\text{C}$ , which are both stable, and  $^{14}\text{C}$ , which is not. Once an organism dies the unstable radioactive carbon  $^{14}\text{C}$  begins to decay at a known rate. It is possible to take a piece of charcoal, shell or bone, and by measuring the ratio of  $^{14}\text{C}$  to the stable isotope  $^{12}\text{C}$ , determine how much time has passed since the organism died.





## What did they eat?

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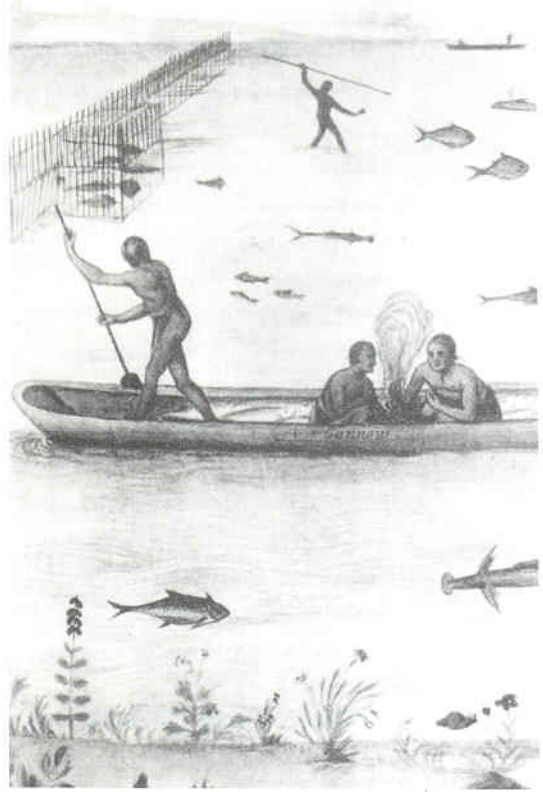
One of the most observable features at coastal middens is the large number of marine shells. At Yat Kitischee, over 16,000 pounds of shell were excavated from an area measuring only 44 square meters! Imagine how many shells must be contained in the entire 7 acre site! But even though shellfish are very numerous, they were not the most important species in the diet of the people who lived at the site. Mixed in with all the shell are many animal bones. By analyzing a sample of this material, archaeologists were able to identify a wide variety of fish, reptiles, birds, and mammals that were eaten along with shellfish. They were also able to determine the relative proportions that each class of animal contributed to the overall diet by estimating its *biomass*, or the quantity of edible meat weight available for each species represented at the site. Estimating the biomass of different species is an important part of reconstructing prehistoric diets. Why is this important? Consider for a moment that the edible meat weight of a single white-tailed deer is equivalent to the combined meat weight of 3,200 oysters! It is no wonder then that oysters far outnumber deer at the site. But more importantly, if only the numbers of oyster shell versus the number of deer bone were used to reconstruct the diet, the picture would be a very biased one. Biomass calculations help archaeologists draw a more accurate picture of what people ate. Using this method, archaeologists determined that 50–55% of the meat consumed at Yat Kitischee was fish, including catfish, trout, kingfish, jack, grouper, mullet, sheepshead, red and black drum (one sixty-pounder!), as well as sharks and sting rays. Oysters, whelks, clams, moon snails, and other shellfish accounted for about 35%. Surprisingly, reptiles such as turtles contributed about 8–10% to the native diet, more than mammals, birds and amphibians combined.





## Fishing Technology

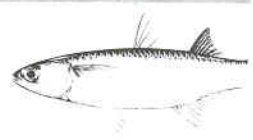
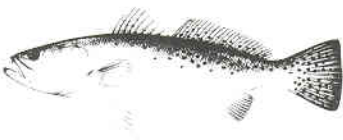
The inhabitants of Yat Kitischee no doubt relied heavily on the use of nets for fishing. Archaeologists used two types of evidence to make this inference. The size and composition of the individual fishes in the assemblage provide indirect evidence. For example, small fish such as menhaden and killifishes were probably incidental byproducts of using nets to capture targeted species such as drum, trout, mullet, and catfish. The species composition is also very similar to modern catches made under controlled conditions using gill nets. Direct evidence for the use of nets comes from several shell artifacts that are believed to have been used as net weights and net mesh gauges. Tidal traps and weirs may have also been used to capture fish in large quantities. Bi-pointed bone pins recovered from the site may have been used as throat gorges, a kind of primitive fish-hook.



## How balanced was their diet?

Fish and shellfish provided the bulk of the caloric intake and an abundance of protein while turtles and terrestrial mammals were important sources of animal fat. What is not represented here is the contribution of plant foods to the overall diet. Many plants provided important vitamins and minerals that are not available in fish or other wild game. Some plants are particularly important sources of carbohydrates which are used by the body to produce energy. They would have been particularly important in a maritime economy since shellfish and many fish species typically have a low fat content. Unfortunately, plant remains do not preserve well unless they are charred. The only charred plant remains recovered from the site so far are fuel woods such as oak, pine, and cedar, so it is difficult to know precisely what species of plants were eaten at Yat Kitischee. Based on historical accounts of native plant use in the southeast, and botanical research at archaeological sites in south Florida, we can infer that the diet probably included naturally occurring plants that we know are edible and nutritious such as palmetto berries, blackberries, prickly pear fruit, hearts of palm, poke weed, purslane, the roots of Smilax and Coonti, acorns and hickory nuts, and the seeds of various wild grasses.

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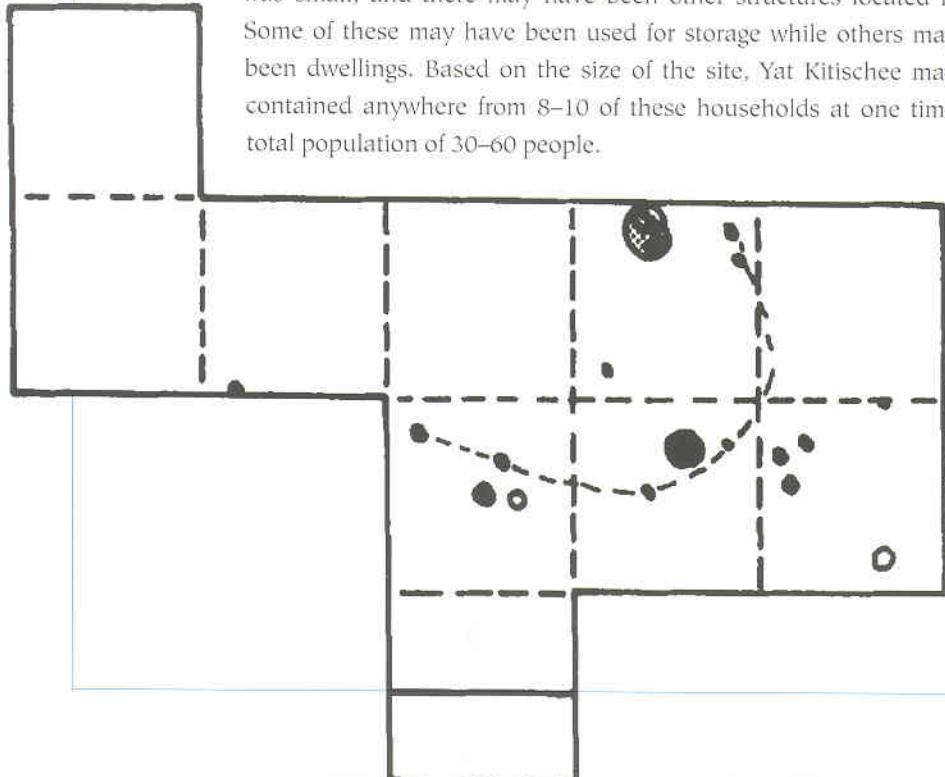
## Did they practice agriculture?

Although the Spanish explorer Panfilio de Narvaez mentions corn at Tocobaga (Safety Harbor), there is no archaeological evidence to indicate that prehistoric or *historic* native peoples in the Tampa Bay area practiced intensive agriculture. There is evidence from southwest Florida of the cultivation of gourds, but these hard-shelled plants were probably used as containers and floats rather than as a food source.

There are several possible reasons why agriculture was not important in central and south Florida. One is that agriculture is found primarily in societies where population densities are high and natural sources of food are insufficient to feed large numbers of people. If the number and sizes of habitation sites are taken as a rough guide, then population density in the Tampa Bay area at circa A.D. 800 was probably not great enough to warrant the extra labor effort necessary to plant and tend crops on a large scale. Another factor is the high productivity of marine resources which makes it more efficient to intensify fishing and shellfishing to meet subsistence needs than practice agriculture. A third factor may have been poor soils which lacked the nutrients necessary for intensive agriculture.

## What kind of houses did they live in?

The people who lived at Yat Kitischee approximately 1500 years ago lived in semi-circular structures that were constructed with a frame of wooden posts each measuring about 4–8 inches in diameter. One of these structures was excavated by archaeologists and its entrance opened to the northeast towards the bay. The structure itself was about four meters, or just over 13 feet, in diameter. We don't know what they covered the structure with, but it was probably palm or palmetto fronds. Based on comparisons with hunter-gatherer-fishers in other parts of the world, a household of this size probably could have accommodated a family of 4–6 people. The area excavated was small, and there may have been other structures located nearby. Some of these may have been used for storage while others may have been dwellings. Based on the size of the site, Yat Kitischee may have contained anywhere from 8–10 of these households at one time for a total population of 30–60 people.





## What kinds of tools did they use?

Prehistoric native peoples had to obtain everything they needed from their environment. They were ingenious in the ways that they used natural resources to construct their houses and make their clothes, tools, vessels, and ornaments. Because the people at Yat Kitischee lived close to the water, it is not surprising that many of their tools are made from marine shell. Large lightning whelks were attached to wooden handles and used as hammers and wood-working tools. Smaller crown conchs were also hafted and used as hammers. Sun ray venus shells made excellent scrapers for scaling fish or removing the bark from tree branches. Shell was also used to make dippers, cups, spoons, and ladles as well as net sinkers and net mesh gauges.

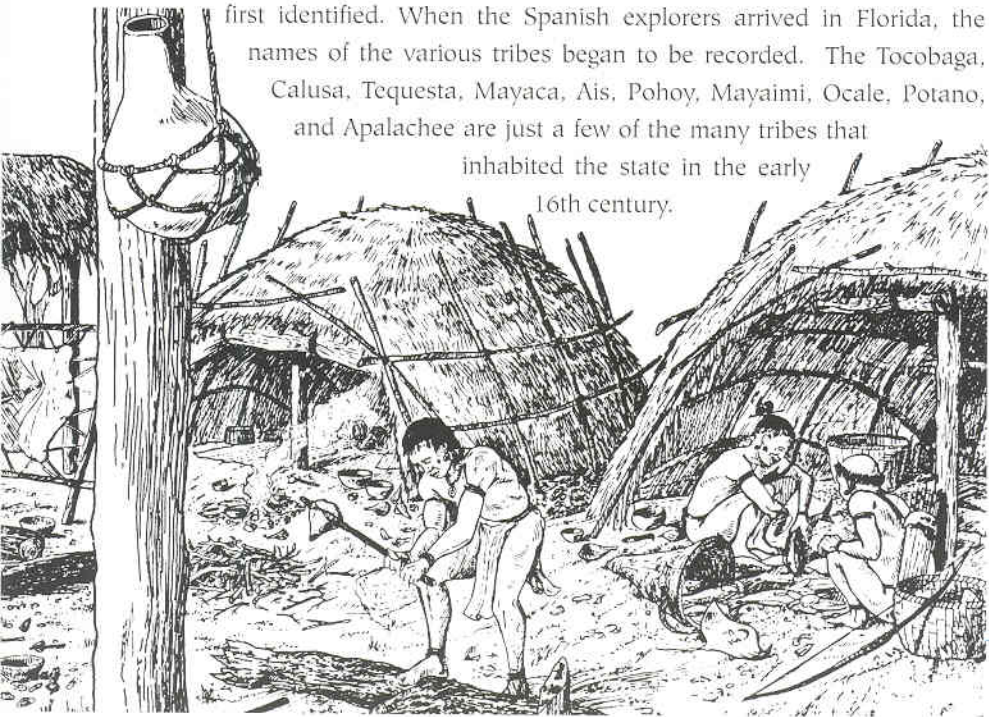
Stone was also used to make tools. The Florida stone used for tools is known as *chert*, which is simply limestone that has been replaced with silica. It is much like flint and the people of Yat Kitischee used it to make arrowheads, knives, scrapers, drills, and engraving tools. Most of the chert from Yat Kitischee was collected from prehistoric *quarries* around Tampa Bay.

Mammal bone was used to make *projectile points*, pins, and fish hooks. Several finely-carved bone pins were recovered at Yat Kitischee. A carved fossilized manatee rib was also found. Wood was probably used for a variety of things such as hammers, handles for tools, and digging sticks. Fibers made from palmetto fronds, grasses or root tendrils were probably used to make woven mats and baskets. Unfortunately, these more perishable materials are rarely preserved in Florida. We can infer their use at Yat Kitischee, however, based on their occurrence at sites where they have been preserved in wet, oxygen-free environments where no organisms can live to destroy them.


## What did they call themselves?

The native peoples who lived in Florida left no written records so we have no way of knowing how they referred to themselves. The names given by archaeologists to the various prehistoric cultures are usually based on the sites where these cultures were

first identified. When the Spanish explorers arrived in Florida, the names of the various tribes began to be recorded. The Tocobaga, Calusa, Tequesta, Mayaca, Ais, Pohoy, Mayaimi, Ocale, Potano, and Apalachee are just a few of the many tribes that inhabited the state in the early 16th century.



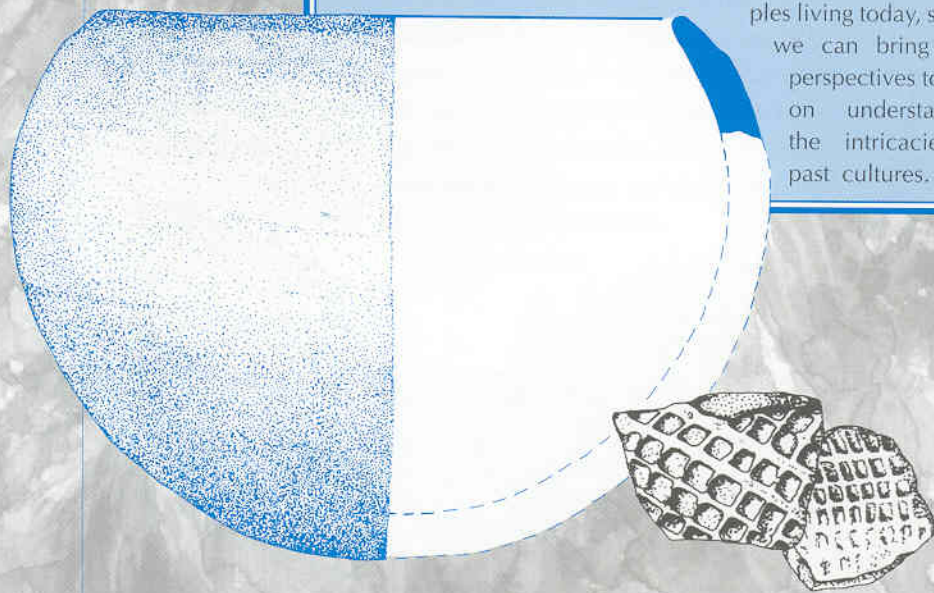
## What kind of pottery did they use?

Since Yat Kitischee was a village, the pottery found there reflects utilitarian uses — cooking, serving, and storage. Cooking and serving vessels tended to be shallow bowls with outward curving walls or deeper bowls with straight walls. Storage vessels tended to have walls that curve inward so that the opening was more restricted. Using a mathematical formula, rim sherds were used to accurately determine the size of the original vessels. Occasionally, vessels at Yat Kitischee were decorated with simple incised lines or with check-stamping, a surface design that was applied by pressing a carved wooden paddle into the wet clay before firing. Cord-marking, or the wrapping of a cord around a paddle and pressing it into the wet clay, was also used. Though these decoration techniques were represented at Yat Kitischee, the majority of the vessels were plain and undecorated. They were constructed by wrapping coils of clay atop each other and using sand for *temper*. 

### The Limitations of Archaeology

One part of native life that is difficult to reconstruct from archaeological evidence is the way that people perceived their world and their place in it—in other words, their belief systems. In traditional societies, many aspects of daily life are invested with a spiritual character. To the extent that these spiritual beliefs were manifested in behaviors that left behind material remains that can be interpreted accurately, archaeologists can attempt to reconstruct them. But we will never be completely successful. This is why it is important to work with and learn as much as we

can from traditional peoples living today, so that we can bring their perspectives to bear on understanding the intricacies of past cultures.





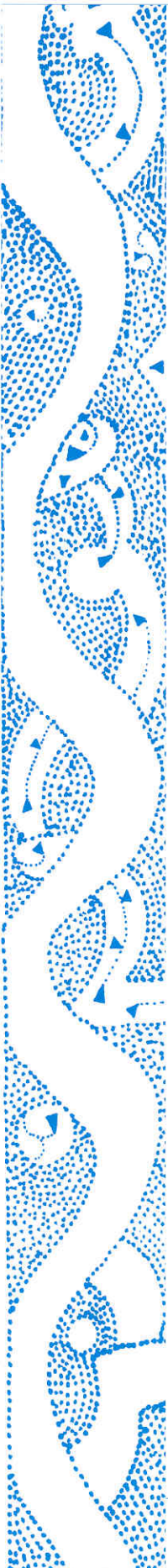
## Preserving the Past

Florida has a rich and fascinating cultural heritage that is at least 12,000 years old. Unfortunately, it has been estimated that within twenty-five years Florida's prehistoric archaeological sites will all be damaged or destroyed. Whether by construction, development, or vandalism the impact is the same—the loss of Florida's unique archaeological record. When a site is damaged, large chunks of information are lost forever. Imagine viewing the Mona Lisa with pieces of the canvas missing or reading Moby Dick with every third page torn out. The information can never be replaced because the remarkable cultures that created these sites are gone and the people left no written records. This is why archaeological sites are referred to as “non-renewable resources”. They are the only evidence we have of these people ever having been here. We should all cherish Florida's archaeological heritage and protect it for future generations as a source of knowledge and inspiration.

### Why should we preserve archaeological sites?

Archaeologists acknowledge that their science is still young and growing. Methods used for excavation only twenty years ago are considered inadequate today. It is therefore reasonable to assume that today's methods will be improved upon as technology advances. This is why archaeologists like to leave intact a portion of each site they work on for future archaeologists to excavate.

There is another reason to preserve sites. Archaeology is more than just an arcane science or a nostalgic look into the past. Its true worth lies in its ability to develop in us a respect for people and cultures different from our own. Preserving archaeological sites helps preserve a major source of evidence documenting the diversity of cultures that have existed since humans first walked the earth. 🌿



## Glossary

- archaeology** the study of past human cultures through the analysis of their material and physical remains.
- artifact** any object manufactured or modified by humans (e.g., pottery, bottle, clothing, mound, building).
- biomass** a calculation of the meat weight of an animal based on the relationship between supportive tissue weight (bone) and total body weight.
- cacique** an Arawakan word meaning ruler or chief; it was brought to Florida from the Caribbean by the Spanish who used it to refer to the chiefly rulers of local native groups.
- chert** a flint-like stone formed through the replacement of limestone by silica contained in mineral-rich ground water.
- ethnography** a written description of a culture based on anthropological field work; usually the anthropologist lives with the people for a period of time in order to observe the culture in action.
- excavation** the systematic removal and recording of prehistoric or historic artifacts, features, and associated materials (e.g., soil samples) from the ground; may involve a wide variety of techniques ranging from the use of small, specialized picks, brushes, and trowels to the use of heavy equipment to remove overburden and dig profile trenches.
- feature** an area or group of objects deserving of special attention during excavation (e.g., a hearth or firepit, postmolds, a cluster of artifacts).
- grid system** the orderly arrangement of excavation squares at an archaeological site.
- hamlet** a small, permanent or semi-permanent settlement consisting of several family groups.
- hammock** a more or less elevated piece of land, often rising out of a swamp or wetland; usually contains rich, organic soil and either palm or hardwood vegetation.
- history** period of time since the advent of written records; in Florida this is generally considered to begin at the time of Spanish contact in the early 16th century.
- lithic** a synonym for stone.
- midden** an area where people lived and disposed of their garbage; usually consists of food remains (e.g., animal bone and shell), but may also contain features and discarded artifacts.
- mound** a purposefully constructed circular earthwork built by prehistoric and early historic people; used primarily for the interment of the dead although some may have functioned as foundations for living structures.



**Muskogee** a family of languages originating with the Creeks which was spoken by many native peoples in the southeastern U.S.

**quarry** a source of lithic raw material, such as a chert outcrop, where native peoples obtained stone for use in manufacturing tools.

**Paleo** a prefix meaning old or ancient (e.g., Paleo-Indian, paleoenvironment).

**prehistory** period of time before written records; in Florida this is generally considered to be prior to the time of Spanish contact in the early 16th century.

**profile** a scaled drawing of the various soil strata at a site.

**projectile point** general term that refers to all stemmed or lanceolate-shaped stone projectiles that were hafted to a shaft (e.g., spear points, arrowheads).

**sherd** a piece or fragment of pottery; not to be confused with "shard" which refers to a piece of broken glass.

**site** any area that contains evidence of past human activity ranging from large mound and midden complexes to a single artifact.

**stadia rod** a graduated rod used with a transit to determine distances and elevations; graduations may be in meters and centimeters or in feet and tenths of feet; sometimes referred to as a leveling rod.

**survey** the systematic examination of an area for the purpose of locating and recording archaeological resources.

**temper** material intentionally added to clay to prevent shrinkage (and hence cracking) when fired; the more general terms nonplastic or aplastic are often used to encompass materials that occur naturally in clay or are introduced accidentally; in Florida the most common tempering materials were sand, limestone, small fragments of pot sherds (grog), and plant fibers.

**temple mound** large, flat-topped pyramidal structure composed of sand, shell, or sand, and shell and often possessing a rampway leading to its summit; used for ceremonies and other special functions by prehistoric and historic native peoples.

**transit** an instrument used to accurately measure horizontal and vertical angles, extend straight lines, measure distances, and when used with a stadia rod, determine elevations above mean sea level; essentially a telescope mounted on a tripod that can be adjusted so that the instrument is perfectly level.



## For Further Reading

For more information on the prehistory and culture of Florida's native peoples, visit your local library or ask your favorite book store to order any of the following books:

### ***Archaeology of Precolumbian Florida***

Jerald T. Milanich  
University Press of Florida, Gainesville 1994

### ***Florida's Indians and the Invasion from Europe***

Jerald T. Milanich  
University Press of Florida, Gainesville 1995

### ***Florida's First People: 12,000 Years of Human History***

Robin C. Brown  
Pineapple Press, Inc., Sarasota 1994

### ***The Art and Archaeology of Florida's Wetlands***

Barbara A. Purdy  
CRC Press, Boca Raton 1991

### ***Florida's Prehistoric Stone Technology: A Study of the Flintworking Technique of Early Florida Stone Implement Makers***

Barbara A. Purdy  
University Press of Florida, Gainesville 1981

### ***Indian Mounds You Can Visit***

Mac Perry  
Great Outdoors Publishing Company, St. Petersburg 1993

### ***Hernando de Soto and the Indians of Florida***

Jerald T. Milanich and Charles Hudson  
University Press of Florida, Gainesville 1991

### ***First Encounters: Spanish Explorations in the Caribbean and the U.S. 1492-1570***

Jerald T. Milanich and Susan Milbrath, editors  
University of Florida Press, Gainesville 1989

### ***The Seminoles of Florida***

James W. Covington  
University Press of Florida, Gainesville 1993

### ***Yat Kitischee: A Prehistoric Coastal Hamlet, 100 B.C.-A.D. 1200***

Robert J. Austin, editor  
Available from the Pinellas County Planning Department, Clearwater 1995

### ***The Florida Anthropologist***

Published quarterly, \$25 per year.  
Available from the Florida Anthropological Society  
P.O. Box 82255, Tampa, FL 33682

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### Is it wrong to collect artifacts?

Many people collect artifacts and many collectors have made important contributions to Florida archaeology. However, they know how to properly record their finds. Pot-hunting, or the uncontrolled digging of an archaeological site without proper recording, destroys valuable information about the past that can never be replaced. The past belongs to everyone and we should all help to preserve it. If you find an archaeological site or artifact, you can help save the past by recording the location of your find on a map and contacting the Office of the State Archaeologist at the address below so that the information can be properly documented.

Office of the State Archaeologist  
Florida Division of Historical Resources  
500 South Bronough Street  
R.A. Gray Building  
Tallahassee, FL 32399-0250  
(904) 487-2299



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